

11th International Symposium on Integrated Synthesis (ISONIS-11)

3rd International Symposium on Middle Molecular Strategy (ISMMS-3)

November 15-17, 2017

Awaji Yumebutai International Conference Center, Awaji Island, Japan

ORGANIZING COMMITTEE

Chair:

Koichi Fukase (Osaka U.) and Seiji Suga (Okayama U.)

Members:

Shuji Akai	(Osaka U.)	Kouichi Ohe	(Kyoto U.)
Hideki Amii	(Gunma U.)	Hiroaki Ohno	(Kyoto U.)
Mahito Atobe	(Yokohama National U.)	Takashi Ohshima	(Kyushu U.)
Naoto Chatani	(Osaka U.)	Akihiro Orita	(Okayama U. of Science)
Takayuki Doi	(Tohoku U.)	Ilhyong Ryu	(Osaka Prefecture U.)
Toshiyuki Hamura	(Kwansei Gakuin U.)	Makoto Shimizu	(Mie U.)
Hiroshi Ikeda	(Osaka Prefecture U.)	Michinori Suginome	(Kyoto U.)
Yasushi Imada	(Tokushima U.)	Kiyosei Takasu	(Kyoto U.)
Toshiyuki Itoh	(Tottori U.)	Katsunori Tanaka	(Riken)
Fumitoshi Kakiuchi	(Keio U.)	Keiji Tanino	(Hokkaido U.)
Kiyomi Kakiuchi	(NAIST)	Yoshito Tobe	(Osaka U.)
Nobuaki Kambe	(Osaka U.)	Yasushi Tsuji	(Kyoto U.)
Akio Kamimura	(Yamaguchi U.)	Yasuhiro Uozumi	(IMS)
Seiji Matsubara	(Kyoto U.)	Shigeru Yamago	(Kyoto U.)
Masahiro Miura	(Osaka U.)	Makoto Yasuda	(Osaka U.)
Akimori Wada	(Kobe Pharm. U.)	Jun-ichi Yoshida	(Kyoto U.)
Atsunori Mori	(Kobe U.)	Takahide Fukuyama	(Osaka Prefecture U.)
Masahiro Murakami	(Kyoto U.)	Yukari Fujimoto	(Keio U.)
Fumi Nagatsugi	(Tohoku U.)	Hidetoshi Yamada	(Kwansei Gakuin U.)
Masaharu Nakamura	(Kyoto U.)	Hideki Yorimitsu	(Kyoto U.)
Masahisa Nakada	(Waseda U.)	Kosuke Namba	(Tokushima U.)
Akiya Ogawa	(Osaka Prefecture U.)		

Acknowledgements

The ISONIS-11& ISMMS-3 Organizing Committee wishes to thank the generous support from the associations, whose names are on the back cover of the booklet.

ISONIS-11 & ISMMS-3

SCIENTIFIC PROGRAM

Thursday, November 16

10:00-10:10 Opening Remark

Chair: Koichi Fukase, Seiji Suga

10:10-11:10 **PL-1** Tohru Fukuyama (Nagoya University)
TOTAL SYNTHESIS OF (–)-TETRODOTOXIN

11:10-11:50 **IL-1** Katsunori Tanaka (Riken)
Therapeutic In Vivo Synthetic Chemistry

11:50-14:00 Lunch & Poster Presentation (12:30-13:15 odd, 13:15-14:00 even)

Chair: Jun-ichi Yoshida, Akihiro Orita

14:00-15:00 **PL-2** Peter H. Seeberger (Max-Planck Institute of Colloids and Interfaces)
Preventing and Fighting Infectious Diseases: Carbohydrate Vaccines and
Continuous Chemistry

15:00-15:40 **IL-2** Timothy Noël (Eindhoven University of Technology)
Innovation in catalytic methodology development through flow chemistry

15:40-16:00 break

Chair: Masahisa Nakada, Hidetoshi Yamada, Mahito Atobe

16:00-16:40 **IL-3** Ryan A. Shenvi (The Scripps Research Institute)
Synthesis of Secondary Metabolites

16:40-17:20 **IL-4** Yukari Fujimoto (Keio University)
Synthesis and Immunomodulatory Functions of Glycolipids

17:20-18:00 **IL-5** Alexei V. Demchenko (University of Missouri)
From Stereocontrolled Glycosylation to the Automated Oligosaccharide Synthesis

18:00-21:00 Banquet

21:00-22:00 Poster Presentation

Friday, November 17

Chair: Yoshito Tobe, Seijiro Matsubara

- 09:20-10:20 **PL-3** Yian Shi (Colorado State University)
Catalytic Selective C-X Bond Formation
- 10:20-11:00 **IL-6** Keiko Shimamoto (Suntory Institute for Bioorganic Research)
Novel Glycolipid Involved in Membrane Protein Integration

Chair: Makoto Yasuda, Fumitoshi Kakiuchi, Toshiyuki Hamura

- 11:00-11:15 **O-1** Gamal A. I. Moustafa,^{1,2} Yasuhiro Oki,¹ Shuji Akai¹ (¹Osaka University, ²Minia University)
Asymmetric Synthesis of Axially-Chiral Biaryls *via* Lipase/Metal Integrated Dynamic Kinetic Resolution
- 11:15-11:30 **O-2** Katsuhiko Isozaki, Kosuke Ishibashi, Ryo Ueno, Hikaru Takaya, Masaharu Nakamura (Kyoto University)
Synthesis and Photocatalysis of Gold Clusters Functionalized by Peptide Dendron Thiulates
- 11:30-11:45 **O-3** Yasuhiro Nishiyama,^{1,2} Momoe Nakano,¹ Jiro Noguchi,¹ Hajime Mori,² Kiyomi Kakiuchi¹ (¹Nara Institute of Science and Technology, ²Industrial Technology Center of Wakayama Prefecture)
Efficient Photoreactions in Flow Microreactors with Hg Lamp and Visible LED Lamp
- 11:45-12:00 **O-4** Hiroyuki Miyamura, Kohei Nishino, Tomohiro Yasukawa, Shū Kobayashi (The University of Tokyo)
Heterogeneous Rhodium Nanoparticle Catalyzed Asymmetric 1,4-Addition of Aryl Boronic Acids to Nitroalkenes and α,β -Unsaturated Carbonyl Compounds

12:00-13:00 Lunch

Chair: Makoto Yasuda, Fumitoshi Kakiuchi, Toshiyuki Hamura

- 13:00-13:15 **O-5** Atsushi Shimoyama,¹ Keisuke Mizote,¹ Naoko Shibata,² Flaviana Di Lorenzo,³ Yukari Fujimoto,⁴ Antonio Molinaro,³ Jun Kunisawa,⁵ Hiroshi Kiyono,² Koichi Fukase¹ (¹Osaka University, ²The University of Tokyo, ³University of Naples Federico II, ⁴Keio University, ⁵National Institute of Biomedical Innovation)
Isolation and Structural Elucidation of Novel Lipooligosaccharide from Symbiotic Bacteria, and Synthesis of Its Active Principle Lipid A

- 13:15-13:30 **O-6** Keisuke Asano,* Naoki Yoneda, Yuki Fujii, Akira Matsumoto, Seijiro Matsubara* (Kyoto University)
Organocatalytic Enantio- and Diastereoselective Cycloetherification via Dynamic Kinetic Resolution of Chiral Cyanohydrins
- 13:30-14:10 **IL-7** Takahide Fukuyama (Osaka Prefecture University)
Efficient Flow Photoreactions Using Photo-Microreactors
- 14:10-14:20 break
- Chair: Kosuke Namba, Takashi Ohshima*
- 14:20-15:00 **IL-8** Xue-Wei Liu (Nanyang Technological University)
Quick Assembly of Peptidoglycans and Glycopeptides for Antimicrobial Research
- 15:00-15:40 **IL-9** Aiichiro Nagaki (Kyoto University)
Organolithium Chemistry Using Flow Microreactors
- 15:40-15:50 Closing Remark

Time Table

Wednesday, November 15	
18:00	Get together

Thursday, November 16	
9:00	
9:30	PL : Plenary Lecture IL : Invited Lecture
10:00	Opening Remark
10:10	
10:30	PL-1 Tohru Fukuyama (Nagoya University)
11:00	
11:10	
11:30	IL-1 Katsunori Tanaka (Riken)
11:50	
12:00	Lunch & Poster Presentation 12:30-13:15 odd number 13:15-14:00 even number
12:30	
13:00	
13:30	
14:00	
14:30	PL-2 Peter H. Seeberger (Max-Planck Institute of Colloids and Interfaces)
15:00	IL-2 Timothy Noël (Eindhoven University of Technology)
15:30	
15:40	break
16:00	
16:30	IL-3 Ryan A. Shenvi (The Scripps Research Institute)
16:40	
17:00	IL-4 Yukari Fujimoto (Keio University)
17:20	
17:30	IL-5 Alexei V. Demchenko (University of Missouri)
18:00	
18:30	
19:00	
19:30	Banquet
20:00	
20:30	
21:00	
21:30	Poster Presentation
22:00	

Friday, November 17	
9:00	
9:20	
9:30	PL-3 Yian Shi (Colorado State University)
10:00	
10:20	
10:30	IL-6 Keiko Shimamoto (Suntory Institute for Bioorganic Research)
11:00	O-1 Gamal A. I. Moustafa (Osaka University) ISMMS session
11:15	O-2 Katsuhiro Isozaki (Kyoto University) ISMMS session
11:30	O-3 Yasuhiro Nishiyama (NAIST) ISMMS session
11:45	O-4 Hiroyuki Miyamura (The University of Tokyo) ISMMS session
12:00	
12:30	Lunch
13:00	
13:15	O-5 Atsushi Shimoyama (Osaka University) ISMMS session
13:30	O-6 Keisuke Asano (Kyoto University) ISMMS session
14:00	IL-7 Takahide Fukuyama (Osaka Prefecture University)
14:10	break
14:20	
14:30	IL-8 Xue-Wei Liu (Nanyang Technological University) ISMMS session
15:00	IL-9 Aiichiro Nagaki (Kyoto University) ISMMS session
15:30	
15:40	Closing Remark

Poster Presentations

- P-1** Gamal A. I. Moustafa,^{1,2} Yasuhiro Oki,¹ Shuji Akai¹ (¹Osaka University, ²Minia University)
Asymmetric Synthesis of Axially-Chiral Biaryls via Lipase/Metal Integrated Dynamic Kinetic Resolution
- P-2** Katsuhiro Isozaki, Kosuke Ishibashi, Ryo Ueno, Hikaru Takaya, Masaharu Nakamura (Kyoto University)
Synthesis and Photocatalysis of Gold Clusters Functionalized by Peptide Dendron Thiulates
- P-3** Hiroyuki Miyamura, Kohei Nishino, Tomohiro Yasukawa, and Shū Kobayashi (The University of Tokyo)
Heterogeneous Rhodium Nanoparticle Catalyzed Asymmetric 1,4-Addition of Aryl Boronic Acids to Nitroalkenes and α,β -Unsaturated Carbonyl Compounds
- P-4** Atsushi Shimoyama,¹ Keisuke Mizote,¹ Naoko Shibata,² Flaviana Di Lorenzo,³ Yukari Fujimoto,⁴ Antonio Molinaro,³ Jun Kunisawa,⁵ Hiroshi Kiyono,² Koichi Fukase¹ (¹Osaka University, ²The University of Tokyo, ³University of Naples Federico II, ⁴Keio University, ⁵National Institute of Biomedical Innovation)
Isolation and Structural Elucidation of Novel Lipooligosaccharide from Symbiotic Bacteria, and Synthesis of Its Active Principle Lipid A
- P-5** Keisuke Asano,* Naoki Yoneda, Yuki Fujii, Akira Matsumoto, and Seiji Matsubara* (Kyoto University)
Organocatalytic Enantio- and Diastereoselective Cycloetherification via Dynamic Kinetic Resolution of Chiral Cyanohydrins
- P-6** Mahito Atohe (Yokohama National University)
Synthesis and Molecular Weight Control of P3HT Using Electrochemical Polymerization in a Flow Microreactor
- P-7** Ren Matsuo, Natsuyo Kamimoto, Koichi Mitsudo, Seiji Suga (Okayama University)
Synthesis of Butadiynes by Electro-oxidative Coupling Reactions
- P-8** Kazuma Fuku, Shunsuke Yamaguchi, Yoko Yasuno, Tetsuro Shinada (Osaka City University)
Total Synthesis of Ustiloxin D
- P-9** Kazuma Shimoda, Yousuke Yamaoka, Hiroshi Takikawa, Kenichi Yamada, Kiyosei Takasu (Kyoto University)
Total Synthesis of Echinocidin D by Using Lewis Acid Catalyzed [2+2] Cycloaddition
- P-10** Shinya Fukumoto, Isao Mizota, Iwao Hachiya, Makoto Shimizu (Mie University)
Umpolung Reaction of α -Imino Ester Using a Flow System

- P-11** Eiji Yoshida,^{1,2} Nagayasu Nakajima,¹ Tatsuya Toma,¹ Tohru Fukuyama,¹ Satoshi Yokoshima¹ (¹Nagoya University, ²The University of Tokyo)
Synthetic Studies on Ecteinascidin 743
- P-12** Norihito Takahashi, Bonepally Karunakar Reddy, Naoya Matsuoka, Hiroki Oguri (Tokyo University of Agriculture and Technology)
Design and concise modular *de novo* synthesis of 6-aza-artemisinins
- P-13** Kazuma Kuwabara, Toshiaki Murai (Gifu University)
Synthesis of P-Stereogenic Phosphonothioic Acids via Axis-to-Center Chirality Transfer
- P-14** Kazutaka Takamatsu, Koji Hirano, Masahiro Miura (Osaka University)
Copper-Mediated Decarboxylative Coupling of Benzamides with Benzoic Acids via Directed C–H Cleavage
- P-15** Yoko Yasuno, Yohei Toriyama, Ryota Ogura, Tetsuro Shinada (Osaka City University)
Efficient Synthesis of Anthraquinones by Sc(OTf)₃-catalyzed Tandem Reaction
- P-16** Tomoki Fukumitsu, Sanshiro Sakamoto, Michinori Sumimoto, Takuji Kawamoto, Akio Kamimura* (Yamaguchi University)
Ready switching of photoluminescence property of 2-sulfanylhydroquinone derivatives
- P-17** Hirimitsu Shibayama, Hironori Takeuchi, Yoshihiro Ueda, Takumi Furuta, Takeo Kawabata* (Kyoto University)
Synthetic Studies towards Coriariin A
- P-18** Tomohiro Nishikawa, Keiichi Yamada, Takahide Fukuyama, Ilhyong Ryu (Osaka Prefecture University)
Non-Benzylic C(sp³)-H Functionalization of Alkylpyridines Using TBADT as Photocatalyst
- P-19** Momoe Nakano, Jiro Noguchi, Yasuhiro Nishiyama, Kiyomi Kakiuchi (Nara Institute of Science and Technology)
Highly Efficient Photoreactions under Slug Flow Conditions
- P-20** Alexandre Baralle, Tomoaki Inukai, Tomoyuki Yanagi, Keisuke Nogi, Aiichiro Nagaki,* Jun-ichi Yoshida* Hideki Yorimitsu* (Kyoto University)
Flow Microreactor Allows Amines to Act as Nucleophiles in Pummerer Chemistry
- P-21** Tomoyuki Yanagi,¹ Guo Jing-Dong,¹ Keisuke Nogi,¹ Takahiro Sasamori,² Hideki Yorimitsu*¹ (¹Kyoto University, ²Nagoya City University)
Synthesis of Biaryls from Aryl Sulfoxides via Sigmatropic Rearrangement
- P-22** Toshifumi Takahashi, Takuya Kurahashi, Seijiro Matsubara (Kyoto University)
Nickel-Catalyzed Carbohalogenation of Alkynes

- P-23** Daisuke Nakajima,¹ Kaori Ozaki,² Kensuke Orihara,¹ Toshiaki Teruya,² Satoshi Yokoshima¹ (¹Nagoya University, ²Ryukyu University)
Total Synthesis of Majusculamide
- P-24** Heeyoel Baek, Yoichi M. A. Yamada,*¹ Yasuhiro Uozumi*^{1,2} (¹RIKEN, ²Institute for Molecular Science)
(Trans)Esterification Using a Porous Phenol-Sulfonic Acid Resin in Batch and Continuous-Flow System
- P-25** Takahide Fukuyama, Takuhiko Furukawa, Ilhyong Ryu (Osaka Prefecture University)
Synthesis of Quinolinones via Rhodium-Catalyzed Carboamination of Alkynes with Anthranilic Acids
- P-26** Aya Ohno,¹ Yoichi M. A. Yamada,*¹ Takuma Sato,¹ Yasuhiro Uozumi*^{1,2} (¹RIKEN, ²Institute for Molecular Science)
Instantaneous Click Chemistry Using a Copper-Containing Polymeric Membrane-Installed Microflow Device
- P-27** Sho Nakagawa, Atsushi Shimoyama, Koichi Fukase (Osaka University)
Chemical synthesis of *C. jejuni* lipid A for the elucidation of its immune functions
- P-28** Yasuyuki Ueda, Vaidas Suvkynas, Gaku Fukuhara, Keisuke Suzuki, Ken Ohmori (Tokyo Institute of Technology)
Synthetic studies on the cyclophane-derived polyphenylenes
- P-29** Takahiro Morisaki, Mitsuhiro Ueda,* Ilhyong Ryu (Osaka Prefecture University)
Synthesis of Potassium Substituted Halomethyltrifluoroborates by Atom-Transfer Radical Addition to Potassium Vinyltrifluoroborates
- P-30** Hiroyuki Hashishita, Miho Hayama, Aiko Munechika, Mitsuhiro Ueda,* Ilhyong Ryu (Osaka Prefecture University)
[2+2] Cycloadditions of 1,3-Bifunctional Allenes with C₆₀
- P-31** Wataru Nojo, Yusuke Ishigaki, Ryo Katoono, Takanori Suzuki (Hokkaido University)
Convergent Synthesis of Benzindolocarbazole (BIC) Oligomers
- P-32** Takashi Ohshima, Kazuhiro Morisaki, Masanao Sawa, Ryohei Yonesaki, Yuta Kondo, Walaa Akkad, Hiroyuki Morimoto (Kyushu University)
Direct Catalytic Asymmetric Addition to *N*-Unprotected Ketimines
- P-33** Rei Tomifuji, Takuya Kurahashi, Seiji Matsubara (Kyoto University)
Cationic Iron(III) Catalyzed Asymmetric Hetero-Diels–Alder Reaction Using Simple Dienes
- P-34** Arata Nishii, Hiroshi Takikawa, Keisuke Suzuki (Tokyo Institute of Technology)
Intramolecular Benzyne Cycloaddition with Dienes via Silicon-Tethered Strategy

- P-35** Yohei Takakura, Yoshiyuki Manabe, Satomi Kasahara, Koichi Fukase (Osaka University)
Development of FUT8 inhibitors based on diversity-oriented synthesis
- P-36** Shinobu Takizawa, Kenta Kishi, Hiroaki Sasai* (Osaka University)
Enantioselective Synthesis of α -Methylidene- γ -Lactams *via* Amidation and Rauhut-Currier Reaction Sequence
- P-37** Masanori Inaba,¹ Tatsuya Sakai,¹ Shun Shinada,¹ Tsuyuka Sugiishi,¹ Yuta Nishina,² Norio Shibata,³ Hideki Amii*¹ (¹Gunma University, ²Okayama University, ³Nagoya Institute of Technology)
Fluoroalkylation/Cyclization Route to Fluorinated Phthalides
- P-38** Naoki Miyagawa, Tadayuki Ogura, Kentaro Okano, Takuya Matsumoto, Takashi Nishino, Atsunori Mori (Kobe University)
Synthesis of Furan-Dimer Based Biopolyester
- P-39** Hiroto Uno, Jiandong Wang, Etsuko Tokunaga, Norio Shibata (Nagoya Institute of Technology)
Enantioselective Difluoromethylation of MBH-fluorides by C-F Bond Activation
- P-40** Kensuke Suzuki, Yoshihiro Nishimoto, Makoto Yasuda (Osaka University)
(*E*)-Selective Synthesis of Enamides by Coupling Reaction of Alkyl Halides with α -Amido Allylic Stannanes
- P-41** Ken Yamanomoto, Hazuki Kita, Yukihiro Arakawa, Keiji Minagawa, Yasushi Imada (Tokushima University)
Design of Peptide-Containing *N5*-Unmodified Neutral Flavins That Catalyze Aerobic Oxygenations
- P-42** Yoshihiko Morimoto, Moe Hamada, Takuya Kochi, Fumitoshi Kakiuchi (Keio University)
8-Quinolinolato-Rhodium-Catalyzed Anti-Markovnikov Hydroamination of Terminal Alkynes with Primary Amine
- P-43** Abhijit Sen, Kazuhiro Takenaka, Hiroaki Sasai (Osaka University)
Enantioselective Aza-Wacker-Type Reaction Promoted by Pd-SPRIX Catalyst
- P-44** Yuki Hayashi, Kentaro Okano, Atsunori Mori (Kobe University)
Synthesis of Thienoindoles by Halogen Dance and Ligand-Controlled One-Pot Sequential Coupling Reactions
- P-45** Daichi Mari, Naoki Miyagawa, Kentaro Okano, Atsunori Mori (Kobe University)
Regiocontrolled Halogen Dance of α -Bromothiophenes and α -Bromofurans

- P-46** Rikako Tada,¹ Yoshiki Yamane,¹ Aiichiro Nagaki,² Jun-ichi Yoshida,² Kentaro Okano,¹ Atsunori Mori¹ (¹Kobe University, ²Kyoto University)
Deprotonation of Dibromothiophenes Controlled by Flash Chemistry
- P-47** Haruka Mukaiyama, Kohei Takeuchi, Sayaka Sasaki, Kosuke Namba (Tokushima University)
Middle Molecular Probes for Transporter Labeling
- P-48** Takahiro Oonishi, Yukihiro Arakawa, Keiji Minagawa, Yasushi Imada (Tokushima University)
Aerobic Oxidations Using A Flavinium-Resin Catalyst
- P-49** Sujit Manmode, Moeko Kato, Toshiki Nokami, Toshiyuki Itoh (Tottori University)
Development of carbohydrate building blocks for automated electrochemical assembly of β -glucans
- P-50** Eisaku Oohashi, Kohei Takeuchi, Atsushi Nakayama, Keiji Tanino, Kosuke Namba* (Tokushima University)
Studies on the Second Generation Synthesis of Palau'amine
- P-51** Kosuke Ohsawa,¹ Takuya Tokunaga,¹ Carys Thomas,² A. Ganesan,² Yuichi Masuda,³ Takayuki Doi¹ (¹Tohoku University, ²University of East Anglia, ³Mie University)
Synthetic Study for Teixobactin
- P-52** Yemba Baruti, Kohei Torikai, Makoto Ebine, Tohru Oishi (Kyushu University)
Synthetic Study of Hawaiiimycin Analogs
- P-53** Yuma Wakamiya, Makoto Ebine, Tohru Oishi (Kyushu University)
Synthetic Studies Towards the Total Synthesis of Amphidinol 3
- P-54** Sangita Karanjit, Masaya Kashihara, Atsushi Nakayama, Kosuke Namba (Tokushima University)
Pd⁰-Hydrotalcite: A Versatile Heterogeneous Catalyst for Bond Transformation under Mild Condition
- P-55** Toshiki Nokami, Kei Kitamura, Shuji Takahashi, Tatsuya Fujiki, Yuta Isoda, Sujit Manmode, Toshiyuki Itoh (Tottori University)
Total Synthesis of TMG-chitotriomycin analogues based on the combined electrolyte system
- P-56** Masaki Morita,¹ Go Hirai,^{1,2} Mikiko Sodeoka^{2,3,4} (¹Kyushu University, ²RIKEN ³RIKEN CSRS, ⁴AMED-CREST)
Synthetic Strategy Towards Unique Right-Side Structures of Physalins

- P-57** Ken Yamazaki, Yadagiri Kommagalla, Takuma Yamaguchi, Naoto Chatani (Osaka University)
Cobalt-Catalyzed C-H Bond Iodination Using a Bidentate Directing Group
- P-58** Nobuya Nishi, Junki Nashida, Eisuke Kaji, Daisuke Takahashi, Kazunobu Toshima (Keio University)
Development and Application of Boronic Acid Catalyzed Regio- and Stereoselective β -Mannosylation
- P-59** Naoya Osato, Hisaaki Onoue, Yoshiki Toma, Kohei Torikai, Makoto Ebine, Tohru Oishi (Kyushu University)
Convergent Method for Synthesizing the 6/7/6/6-Tetracyclic Ethers
- P-60** Hiroyuki Hakamata, Soichiro Sato, Hirofumi Ueda, Hidetoshi Tokuyama* (Tohoku University)
AgNTf₂-Mediated Functionalizations of Pyrroloindoles and Application to Synthesis of Natural Products
- P-61** Soichiro Okamura, Yoshiyuki Manabe, Hiroki Shomura, Hsin-Ru Wu, Chun-Cheng Lin, Koichi Fukase (Osaka University)
Chemoenzymatic synthesis of multi-antennary N-glycans containing poly lactosamine
- P-62** Kei Kitamura, Kenta Asahina, Yusaku Nagai, Keshu Zhang, Toshiyuki Hamura (Kwansei Gakuin University)
Synthesis, Properties, and Reactivity of π -Extended Rubrene Derivatives
- P-63** Shinnosuke Wakamori, Shintaro Matsumoto, Kazutada Ikeuchi, Hidetoshi Yamada (Kwansei Gakuin University)
Total Synthesis of Casuarinin as a C-glycosidic Ellagitannin
- P-64** Akihiro Orita*, Yasuhiro Okuda, Takanori Nishida, Hirofumi Yamashita, Takafumi Hagihara (Okayama University of Science)
Synthesis of Diarenopentalene: Addition of *in situ* Prepared Hydrogen Iodide to Sondheimer-Wong Diyne
- P-65** Hiroshi Ikeda,^{*1} Atsushi Yamamoto,¹ Yasunori Matsui,¹ Toshio Asada,¹ Motoki Kumeda,¹ Kimiya Taniguchi,¹ Kenichiro Takagi,¹ Yu Suenaga,¹ Kunihiko Nagae,¹ Eisuke Ohta,¹ Hiroyasu Sato,² Shiro Koseki,¹ Hiroyoshi Naito¹ (¹Osaka Prefecture University, ²Rigaku)
Microflow Synthesis and Organic Semiconductor Characteristics of Middle-sized Alkyltetrathienonaphthalenes
- P-66** Kazutada Ikeuchi, Tatsuya Ueji, Shinnosuke Wakamori, Hidetoshi Yamada (Kwansei Gakuin University)
First Total Synthesis of Neostriectinin

- P-67** Hiroaki Shimada, Kazutada Ikeuchi, Shinnosuke Wakamori, Hidetoshi Yamada (Kwansei Gakuin University)
Conformation analysis of 3,6-*O*-bridged glucose derivatives
- P-68** Hajime Hashimoto, Shinnosuke Wakamori, Kazutada Ikeuchi, Hidetoshi Yamada (Kwansei Gakuin University)
Synthetic Study of Nobotanin D and Pterocarinin C
- P-69** Yoshitake Nishiyama, Saki Fujii, Yuki Hazama, Junko Tanaka, Suguru Yoshida, Takamitsu Hosoya (Tokyo Medical and Dental University)
Multi-Click Chemistry for Rapid Functionalization of Middle Molecules